

CLAIMS

1. A diffusing layer based on mineral particles, intended to make a light source homogeneous,  
5 characterized in that it incorporates an electromagnetic insulating device whose resistance per square is greater than 100  $\Omega$ .
2. The diffusing layer as claimed in claim 1,  
10 characterized in that the resistance per square is between 300 and 700  $\Omega$ .
3. The diffusing layer as claimed in claim 1, characterized in that the insulating device consists of  
15 at least one electrically conducting layer that is translucent in the visible domain, said conducting layer being deposited as close as possible to the diffusing layer.
- 20 4. The diffusing layer as claimed in claim 3, characterized in that the conducting layer is based on powder of transparent conducting oxide such as F:SnO<sub>2</sub>, Sb:SnO<sub>2</sub>, Sn:In<sub>2</sub>O<sub>3</sub>, Al:ZnO, for example.
- 25 5. The diffusing layer as claimed in any one of claims 1 to 4, characterized in that the diffusing layer is deposited on a substrate and the conducting layer is deposited on said diffusing layer.
- 30 6. The diffusing layer as claimed in any one of claims 1 to 4, characterized in that the diffusing layer is combined with a substrate, the conducting layer being placed between the substrate and the diffusing layer.
- 35 7. The diffusing layer as claimed in any one of claims 1 to 4, characterized in that the diffusing layer is combined with a substrate, the diffusing layer being deposited on one of the sides of a substrate,

while the conducting layer is deposited on the opposite side of said substrate.

8. The diffusing layer as claimed in any one of claims 1 to 4, characterized in that the insulating device is incorporated into the diffusing layer.

9. The diffusing layer as claimed in any one of claims 1 to 8, characterized in that the diffusing layer is made of elements comprising particles and a binder, the binder allowing the particles to be agglomerated with one another, the insulating device consisting of one or other of said elements.

10. The diffusing layer as claimed in claim 9, characterized in that the particles are made of metal or metal oxides.

11. The diffusing layer as claimed in claim 9, characterized in that it contains particles of  $\text{ZrO}_2$ .

12. The diffusing layer as claimed in one of claims 9 to 11, characterized in that the particle size is between 50 nm and 1  $\mu\text{m}$ .

13. The diffusing layer as claimed in any one of claims 9 to 12, characterized in that the particles are based on  $\text{F:SnO}_2$  or ITO.

14. The diffusing layer as claimed in claim 9, characterized in that the binder is a mineral or organic electrically conducting binder.

15. The diffusing layer as claimed in any one of claims 1 to 14, characterized in that the substrate is a glass substrate.

16. The diffusing layer as claimed in any one of claims 1 to 14, characterized in that the substrate is

a transparent substrate based on polymer, for example made of polycarbonate.

17. The diffusing layer as claimed in any one of  
5 claims 1 to 16, characterized in that the diffusing layer incorporates a coating having a functionality other than that of insulating, particularly a coating with a low-emissivity function, antistatic function, antifogging function or an antifouling function.

10 18. The diffusing layer as claimed in any one of claims 1 to 17, characterized in that it has a light transmission  $T_L$  greater than 20% and preferably greater than 50%.

15 19. The diffusing layer as claimed in one of claims 1 to 18, characterized in that it has a thickness of between 0.5 and 5  $\mu\text{m}$ .

20 20. The use of a diffusing layer as described in one of claims 1 to 19 to produce a diffusing substrate in a system provided with light sources.

25 21. The use of a diffusing layer as described in one of claims 1 to 19 to produce a diffusing substrate in a backlighting system.

30 22. The use of a diffusing layer as claimed in claim 20, characterized in that the substrate is one of the sheets of glass that make up the backlighting system.

23. The use of a diffusing layer as described in one of claims 1 to 19 to produce a diffusing substrate in a flat lamp system.

35 24. The use of a diffusing layer as claimed in claim 23, characterized in that the substrate is one of the sheets of glass that make up the flat lamp system.

25. The use of a diffusing layer as claimed in one of claims 20 to 24, characterized in that the substrate has a characteristic dimension tailored to "direct light" applications.

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26. The use of a diffusing layer as claimed in one of claims 20 to 25, characterized in that the thickness and/or the cover density of the layer varies over the deposition surface.